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## Assessing Retention in Two Freshman Natural Resource Orientation Courses

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# **Abstract for DBER Group Discussion on 2013-03-07**

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**Title:**

Assessing Retention in Two Freshman Natural Resource Orientation Courses

**Abstract:**

Many university programs have implemented freshman orientation courses to improve student retention. This two-year study explored the relationship between student evaluations of instruction in relation to student learning objectives of two recently developed freshman natural resource orientation courses and predictors of college student retention identified by Davidson, Beck, and Milligan (2009) and Cuseo (2007). The five instructional objectives were Developing a Sense of Community, Reviewing Issues Related to Natural Resources, Evaluating Courses and College Activities, Exploring Careers in Natural Resources, and Developing Resources in the Department. Ninety-five freshman students participated in this study. All five evaluations of instruction in relation to course instructional objectives shared a significant positive variance with the three predictors of college student retention identified by Davidson et al. (2009). The instructional objectives Evaluating Courses and College Activities, Exploring Careers in Natural Resources and Developing Resources in the Department shared a significant positive variance with all seven predictors of college student retention identified by Cuseo (2007). The instructional objectives Reviewing Issues Related to Natural Resources and Developing a Sense of Community shared a significant positive variance with six of the seven predictors of retention identified by Cuseo (2007). First and second year retention rates of students in these orientation courses exceed department and campus wide retention rates. The results of this study support a method that instructors of freshman orientation courses can use to assess the effectiveness of their instruction and gauge student intention to remain in college. Instructors can use this information to direct attention to students at risk of not returning to school.

# Assessing Retention in Two Freshman Natural Resource Orientation Courses

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University of Nebraska-Lincoln  
School of Natural Resources

DBER Meeting

March 7, 2013

# School of Natural Resources

- 9 Majors
- 325 Undergraduates
- 75 faculty

# Introduction

- Many university programs have implemented freshman orientation courses to improve student retention.
  - Improving UNL 6-year graduation rate
- This study explored the relationship between instruction in two recently developed freshman natural resource orientation courses and predictors of college student retention.

# Research Question

Is instruction in regard to student learning objectives in NRES 101 and ENVR 101 significantly related to predictors of Freshmen and Sophomores' college student retention?

Instruction –  
Student Learning Objectives



Predictors of  
College Student Retention

# Background

- NRES 101 – Natural Resources Orientation
- ENVR 101 – Environmental Studies Orientation

# Predictors of College Student Retention

- Davidson, Beck, & Milligan (2009) – College Persistence Questionnaire
  - Academic Integration
  - Scholastic Conscientiousness
  - Institutional Commitment
    - Academic Motivation
    - Academic Efficacy
    - Financial Strain
    - Social Integration
    - College Stress
    - Advising
    - Degree Commitment



# Academic Integration

- Understanding of lectures, believing that faculty care about their intellectual growth, taking an interest in class discussions, and seeing a connection between course and careers

“On average across all your courses, how interested are you in the things that are being said during class discussions?”

# Scholastic Conscientiousness

- Students' assiduousness in completing coursework

“How often do you miss class for reasons other than illness or participation in school-related activities?”

# Institutional Commitment

- Extent to which students are confident in and satisfied with their selection of a college or university

“How likely is it that you will re-enroll at UNL next semester?”

# Predictors of College Student Retention, cont.

- Cuseo (2007) College Student Success
  - Personal Validation
  - Active Involvement
  - Social Integration
  - Self-Reflection
  - Self-Efficacy
  - Personal Meaning
  - Self-Awareness

# Personal Validation

- Feels personally significant

“I feel that I personally matter to the School of Natural Resources or the Environmental Studies Program.”

# Active Involvement

- Degree or depth of student engagement in the learning process

“I have gotten involved in many new activities in college.”

# Social Integration

- Human interaction, collaboration, and formation of interpersonal connections between the student and other members of the college community

“I have developed satisfying relationships with my college peers.”

# Self-Reflection

- Engage in reflective thinking about what they are learning and where they will go from here

“I have spent time thinking about my personal growth while in college.”



# Self-Efficacy

- Believe their individual effort matters

“I believe I can be successful in college.”

# Personal Meaning

- Find meaning or purpose in their college experience

“I can see a connection between what I am studying in college and my future goals.”

# Self-Awareness

- Awareness of their own thinking, learning styles, and learning habits

“I have learned a lot about myself while at UNL.”

# Student Learning Objectives

- Understand Issues Related to Natural Resources
- Evaluate Courses and College Activities
- Explore Careers in Natural Resources
- Develop Resources In the Department
- Develop Sense of Community

# Understand Issues Related to Natural Resources

“As a result of taking this orientation course my knowledge of natural resource management or environmental issues has increased.”

# Evaluate Courses and College Activities

“My participation in the Orientation 101 course has helped me plan my college courses and other activities.”

# Explore Careers in Natural Resources

“Compared to when I began the semester, I now have a better understanding of the kind of work that Natural Resource or Environmental Science professionals do.”

# Develop Resources in the Department

“Participating in the Orientation 101 course has helped me meet the people who work in UNL’s School of Natural Resources or Environmental Sciences program.”



# Develop Sense of Community

“My participation in the Orientation 101 course has helped me to feel more of a sense of community between myself and other students and faculty interested in natural resources or environmental science studies at UNL.”

# Demographic Information

- Gender
- Ethnicity
- Major
- Name
- Comments
- Share Results with Advisor?

# Hypotheses

## Independent Variables

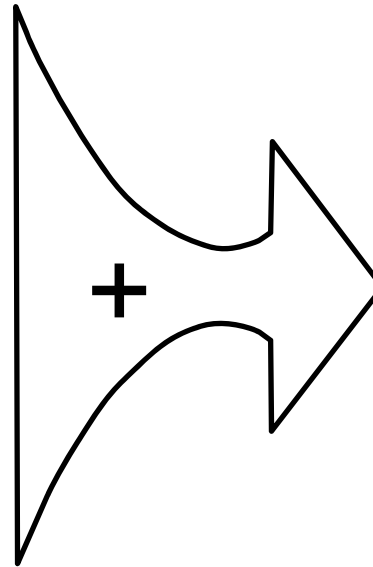
Understand Issues Related to Natural Resources

Evaluate Courses and College Activities

Explore Careers in Natural Resources

Develop Resources in the Department

Develop Sense of Community



## Dependent Variables

Davidson et al (2009)

Academic Integration

Scholastic Conscientiousness

Institutional Commitment

Cuseo (2007)

Personal Validation

Active Involvement

Social Integration

Self Reflection

Self Efficacy

Personal Meaning

Self Awareness

# Methods

- Developed & tested retention assessment
- All students enrolled in NRES 101 and ENVR 101 in Fall 2011 and Fall 2012 completed an assessment after the completion of their orientation course.
- Ninety-five students completed the survey.
- Dependent variables comprised the College Persistence Questionnaire (Davidson et al, 2009) and items developed from Cuseo (2007).
- Independent variables consisted of course objectives converted to survey items.
- Intercorrelations were determined using SPSS™.

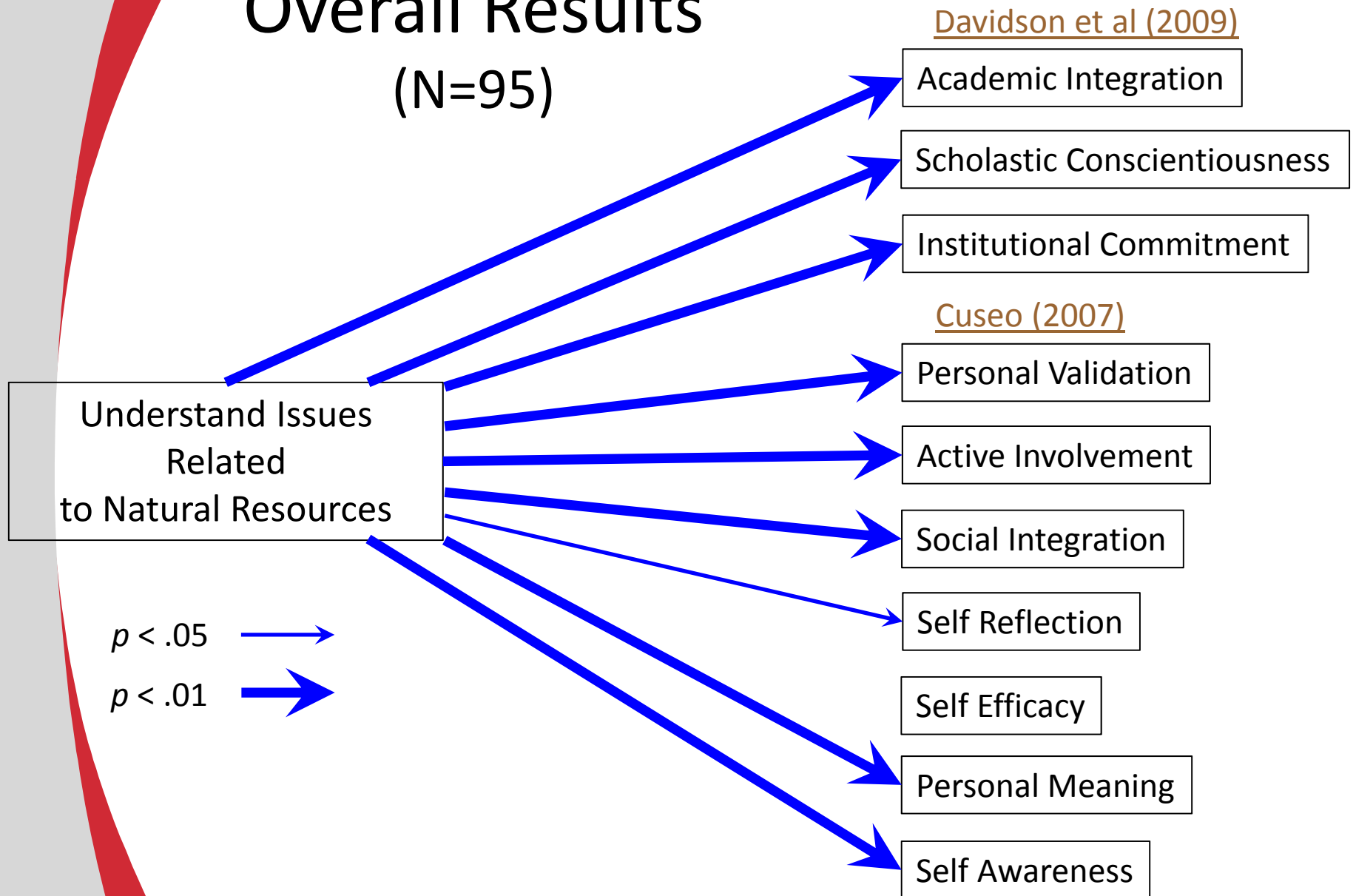
# Results – Intercorrelations

*Descriptive statistics, reliabilities, and intercorrelations (N=95)*

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Academic Integration	3.98	.50	(.75)														
2. Scholastic Conscientiousness	4.15	.58	.54**	(.74)													
3. Institutional Commitment	4.05	.65	.65**	.61**	(.82)												
4. Personal Validation	4.00	.94	.37**	.29**	.35**	(.83)											
5. Active Involvement	4.29	.72	.45**	.53**	.50**	.38**	(.86)										
6. Social Integration	4.03	.92	.37**	.38**	.42**	.59**	.35**	(.85)									
7. Self Reflection	4.29	.74	.34**	.20	.32**	.38**	.33**	.30**	(.85)								
8. Self Efficacy	4.58	.63	.60**	.47**	.63**	.28**	.50**	.34**	.45**	(.82)							
9. Personal Meaning	4.26	.81	.31*	.34**	.28**	.31**	.42**	.21*	.25*	.46**	(.81)						
10. Self Awareness	4.15	.74	.48**	.49**	.52**	.33**	.58**	.40**	.56**	.52**	.32**	(.84)					
11. Dev. Sense of Comm.	4.21	.77	.32**	.26**	.37**	.49**	.34**	.54**	.33**	.30**	.18	.37**	(.83)				
12. Understand NR Issues	4.02	.84	.31**	.36**	.33**	.41**	.39**	.30**	.24*	.20	.27**	.37**	.39**	(.80)			
13. Evaluate Courses	4.08	.63	.27**	.44**	.41**	.41**	.29**	.39**	.25*	.38**	.30**	.39**	.62**	.44**	(.70)		
14. Explore NR Careers	4.10	.60	.34**	.36**	.38**	.56**	.34**	.38**	.33**	.36**	.39**	.44**	.55**	.57**	.70**	(.74)	
15. Develop Resources	4.22	.60	.38**	.33**	.32**	.42**	.28**	.43**	.32**	.38**	.32*	.32*	.55**	.38**	.55**	.58**	(.70)
16. Gender <sup>a</sup>	1.43	.50	.17	.23*	.12	.04	.30**	.01	.26**	.26**	.24*	.27**	-.1	-.15	.08	-.12	.00

■ Hypotheses accepted

# Overall Results (N=95)



# Overall Results (N=95)

Davidson et al (2009)

Academic Integration

Scholastic Conscientiousness

Institutional Commitment

Cuseo (2007)

Personal Validation

Active Involvement

Social Integration

Self Reflection

Self Efficacy

Personal Meaning

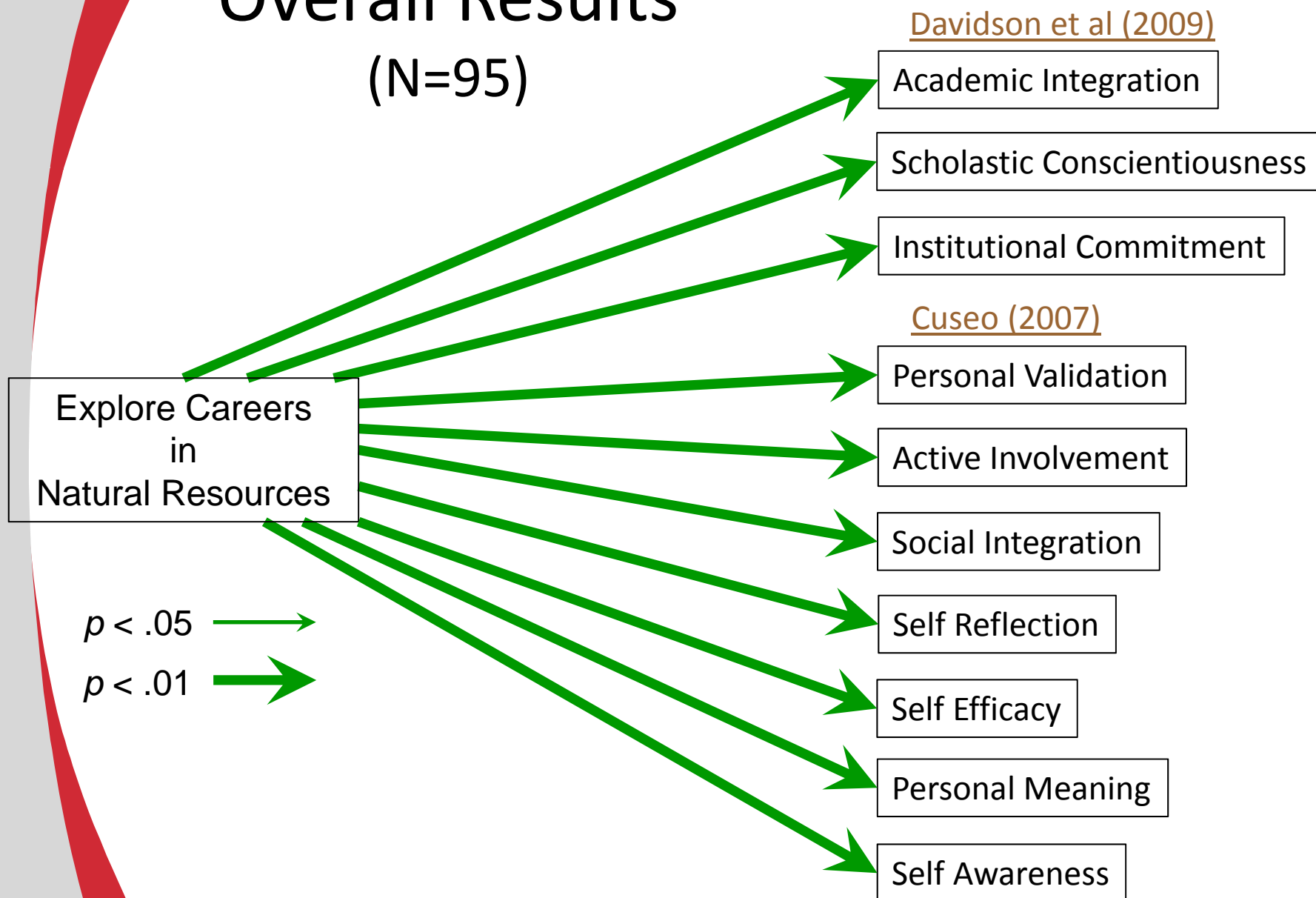
Self Awareness

Evaluate Courses  
and  
College Activities

$p < .05$  →

$p < .01$  →

# Overall Results (N=95)





# Overall Results (N=95)

Develop Resources  
In  
the Department

Davidson et al (2009)

Academic Integration

Scholastic Conscientiousness

Institutional Commitment

Cuseo (2007)

Personal Validation

Active Involvement

Social Integration

Self Reflection

Self Efficacy

Personal Meaning

Self Awareness

$p < .05$  →

$p < .01$  →

# Overall Results (N=95)

Develop Sense  
of Community

Davidson et al (2009)

Academic Integration

Scholastic Conscientiousness

Institutional Commitment

Cuseo (2007)

Personal Validation

Active Involvement

Social Integration

Self Reflection

Self Efficacy

Personal Meaning

Self Awareness

$p < .05$  →

$p < .01$  →

# Overall Results (N=95)

Davidson et al (2009)

Academic Integration

Scholastic Conscientiousness

Institutional Commitment

Cuseo (2007)

Personal Validation

Active Involvement

Social Integration

Self Reflection

Self Efficacy

Personal Meaning

Self Awareness

Gender  
♀

$p < .05$  →

$p < .01$  →

# Results – Retention Comparison

Orientation 101

1-Yr Retention Rate

95.0%\*

CASNR

1-Yr Retention Rate

86.3%

# Retention study as an “intervention” need identifier

- Anecdotal information – two cases

# Conclusion

- Instruction regarding courses objectives positively impacting student retention
- The courses are successfully meeting student learning objectives
- Student retention assessment is an 'early alert' of those who may not retain
  - To direct attention to those individuals
  - To address needs before the end of the semester

# Thank You!

## Questions?



# References

- Cuseo, J. (2007). Seven central principles of student success: Key processes associated with positive student outcomes. *eSource for College Transitions*, 4(6), 3-6. Retrieved from [http://u101tech.sa.sc.edu/NRC/esource/web/pdf/ES\\_4-6\\_Jul07.pdf](http://u101tech.sa.sc.edu/NRC/esource/web/pdf/ES_4-6_Jul07.pdf)
- Davidson, W.B., Beck, H.P., & Milligan, M. (2009). The College Persistence Questionnaire: Development and validation of an instrument that predicts student attrition. *Journal of College Student Development*, 50(4), 373-390.